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Claims 1-4 and 6-29 are currently pending in this case, claims 1, 6, 10, 21, 26 and 28 having been amended, claim 29 having been added and claim 5 having been canceled without prejudice by this paper.

The Applicants would like to thank the Examiner for allowing claims 26-28. As described below, claims 26 and 28 have been amended to address the Office Action's objection to the drawings. No new matter has been added; and the amendment to claims 26 and 28 are not intended to narrow the scope of claim 26 and 28. The Applicants would also like to thank the Examiner for indicating that claim 5 would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims. Claim 5 has been canceled and new claim 29, which is claim 5 rewritten in independent form including all limitations of the base claim and any intervening claims, has been added.

The Office Action objects to the drawings "because reference character '88' has been used to designate both flexible coupling (page 7, line 27) and flexure (page 8, line 33)." (Office Action, page 2, lines 3-5). The Applicants have amended the detailed description such that reference numeral 88 is referred to only as a flexible coupling. Claims 26 and 28 have been amended to be consistent with the detailed description. The Applicants believe these amendments overcome the Examiner's objection to the drawings.

In view of the foregoing amendments and the following remarks, the Applicants request favorable reconsideration and allowance of the present application.

The rejection of claims 1-2, 6-7, 10 and 13 pursuant to 35 U.S.C. section 102(b) as being anticipated by U.S. Patent No. 3,879,786 (Larkin) and the Applicants' traversal thereof

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The Office Action rejects claims 1-2, 6-7, 10 and 13 as being anticipated by the Larkin patent. Claim 1 has been amended to recite a "contact surface having a spherical profile so as to form a spherical joint between the brush mandrel and the brush support that compensates for mounting assembly misalignment during brush mounting." (Emphasis added). Similarly, claim 6 has been amended to recite a mandrel comprising a "contact surface having a spherical profile so as to form a spherical joint between the mandrel and the mounting support that compensates for mounting assembly misalignment during brush mounting." (Emphasis added). Claim 10 has been amended to recite "the first mounting assembly and the brush assembly having respective joint portions that mate together to form a first spherical joint that compensates for mounting assembly misalignment during brush assembly mounting." (Emphasis added). Claim 21 has been amended to recite a "first contact surface having a spherical profile so as to form a spherical joint between the first end of the mandrel and the first mounting support that compensates for mounting assembly misalignment during brush mounting," and a "second contact surface having a spherical profile so as to form a spherical joint between the second end of the mandrel and the second mounting support that compensates for mounting assembly misalignment during brush mounting." (Emphasis added). The amended claims are supported by page 5, lines 20-27 of the Applicants' specification.

According to the Larkin patent, a "drive shaft 20 is rotatably supported within a bearing housing 24 and is rotatably driven by a motor means 28." (Larkin, col. 2, lines 20-22) Further,

[a] drive flange 32 is fixed to rotate with the drive shaft 20. When the brush 15 is properly in position, as in FIG. 3, drive pins 34 extend from the drive flange 32 into a fixed end flange 36 of brush 15 for rotatably driving the brush and in this manner reducing or eliminating the necessity of transmitting torque

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from the drive shaft 20 to the core supporting shaft 12 across the pivotal means 22.

(Larkin, col. 2, lines 23-30). As stated above, the drive flange 32 rotates with the drive shaft 20. The pivotal means 22 appears to be coupled to the drive shaft 20. Therefore, the pivotal means appears to rotate with the drive shaft 20. Because drive pins 34 from the drive flange 32 extend into a fixed end flange of the brush 15, it appears the brush 15, when properly in position, is fixedly coupled to the drive flange 32, and therefore, rotates with the drive shaft 20. Because the brush 15 appears to be fixedly coupled to the drive flange 32, it appears the brush 15 may not pivot from the drive flange 32. Consequently, the core supporting shaft 12 appears unable to pivot about the pivot means 22 and the pivotal means 22 may not perform the function of the spherical joint recited in claims 1, 6, 10 and 21. More specifically, the pivotal means 22 of the Larkin patent appears to be unable to compensate for mounting assembly misalignment during brush mounting.

Further, the Larkin patent appears to state a different purpose for the pivotal means 22; the pivotal means 22 appears to be used while removing brush elements after an end plate is removed. More specifically, as stated in the Larkin patent, "[t]o remove or replace the brush elements, the end plate 38 is detached from the broom housing 52, thereby permitting the core supporting shaft 12 to pivot about pivot means 22 and permitting the idle shaft to be withdrawn from the core supporting shaft as shown in FIG. 1." (Larkin, col. 2, lines 51-56). Therefore, the Larkin patent appears to require removal of the end plate 38 before the pivot means 32 may be employed. Once the end plate 38 is removed, the brush 15 does not appear to be supported in a brush drive 10 of the Larkin patent, and it appears the pivotal means 22 may not then perform the function of the spherical joint recited in claims 1, 6, 10 and 21.

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For the above reasons, the Applicants respectfully submit that the Larkin patent does not disclose a spherical joint "that compensates for mounting assembly misalignment during brush mounting," as required by claims 1, 6, 10 and 21. Consequently, the Applicants respectfully submit that claims 1, 6 and 10, and claims 2-4, 7-9 and 11-20, which depend therefrom, should be allowable.

The rejection of claims 3, 8, 14-15 and 18-24 pursuant to 35 U.S.C. section 103 as being unpatentable over Larkin, the rejection of claims 4, 11 and 16 pursuant to 35 U.S.C. section 103 as being unpatentable over Larkin in view of U.S. Patent No. 1,613,396 (Keller), the rejection of claims 9, 12, 17 and 25 pursuant to 35 U.S.C. section 103 as being unpatentable over Larkin in view of U.S. Patent No. 6,324,714 (Walz) and the Applicants' traversal thereof

The Office Action rejects claims 3, 8, 14-15 and 18-24 under section 103 as unpatentable over the Larkin patent. To reject claims 3, 8, 14-15 and 18-24 as unpatentable, the Office Action relies on the proposition that "Larkin discloses a similar mandrel however fails to disclose the mandrel having a convex profile and the mounting support having a concave profile and a second mounting assembly similar to the first mounting assembly." (Office Action, page 4, lines 5-7). The Larkin patent does not disclose a spherical joint "that compensates for mounting assembly misalignment during brush mounting," as required by claims 1, 6, 10 and 21. Consequently, the Applicants respectfully submit that claims 3, 8, 15, 19-20 and 23-24, which depend therefrom, should be allowable.

The Office Action rejects claims 4, 11 and 16 as unpatentable over the Larkin patent in view of the Keller, Sr. patent. As described above, the Larkin patent does not disclose all limitations of amended claims 1 or 10. The Keller, Sr. patent does not overcome the deficiency of the Larkin patent.

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Consequently, the Applicants respectfully submit that claims 4, 11 and 16, which depend from claims 1 or 10, should be allowable.

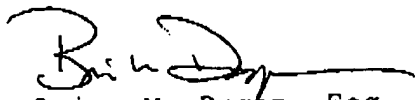
The Office Action rejects claims 9, 12, 17 and 25 as unpatentable over the Larkin patent in view of the Walz patent. For the reasons described above, the Larkin patent does not disclose all limitations of amended claims 6, 10 or 21. The Walz patent does not overcome the deficiency of the Larkin patent. Consequently, the Applicants respectfully submit that claims 9, 12, 17 and 25, which depend from claims 6, 10 or 21, should be allowable.

The Applicants believe the claims are now in condition for allowance, and respectfully request reconsideration and allowance of the same.

Authorization to charge Deposit Account No. 04-1696 in the amount of \$86.00 to cover the fee for the addition of one independent claim 29.

The Applicants do not believe any other fees are due regarding this amendment. If any fees are required, however, please charge Deposit Account No. 04-1696. The Applicants encourage the Examiner to telephone the Applicants' attorney should any issues remain.

Respectfully Submitted,



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